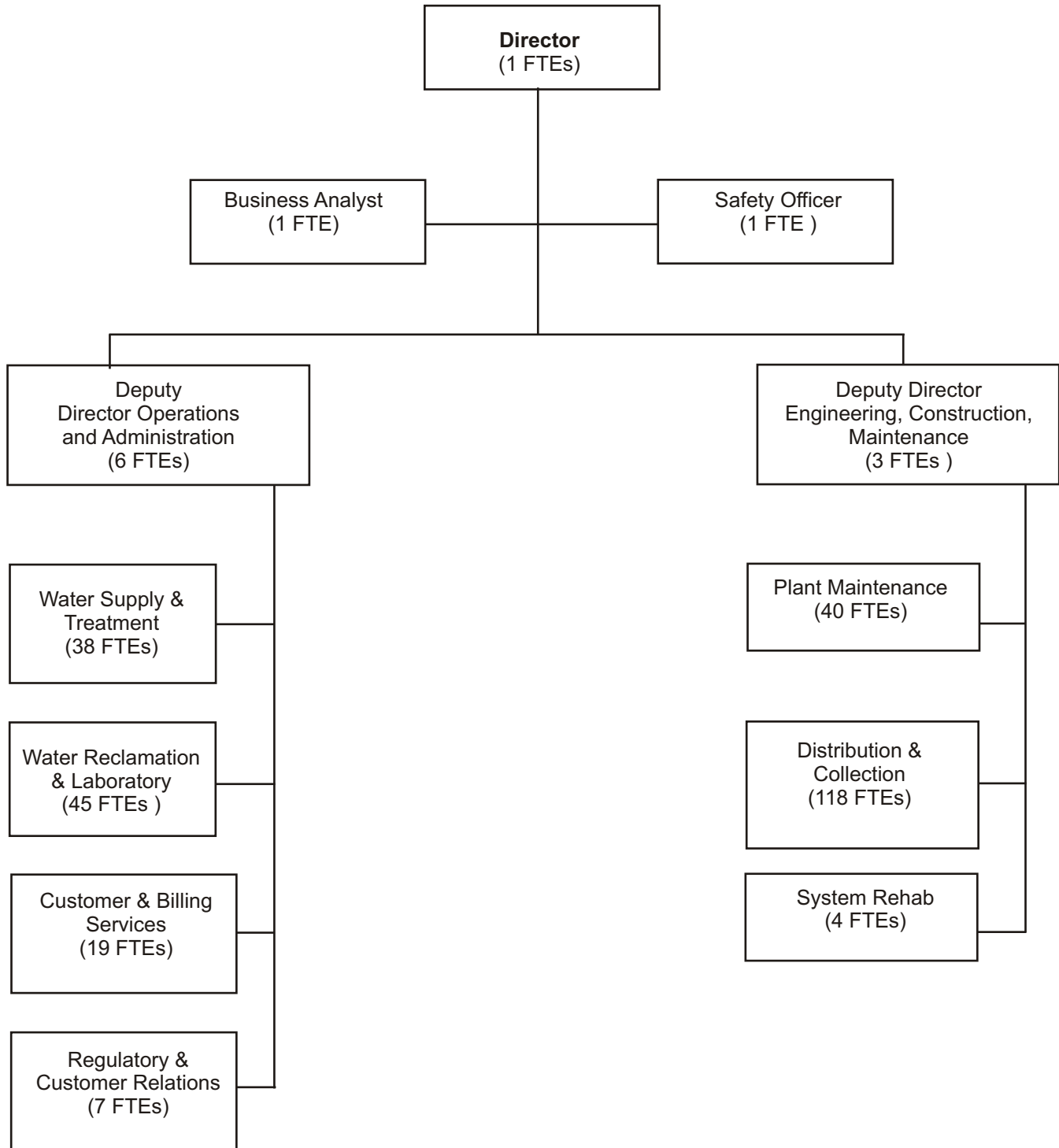




Department of Water Management (283 FTEs)



DEPARTMENT OF WATER MANAGEMENT

Mission:

To provide safe and sufficient water for all citizens of Durham, to protect the environment through effective water conservation and reclamation and to provide efficient and cost-effective landfill post-closure monitoring.

PROGRAM DESCRIPTION

Administrative Support

\$3,795,508

50 FTEs

The Department of Water Management provides for the reliable operation and maintenance of water and wastewater facilities, with adequate capacities to meet essential needs to provide safe and sufficient drinking water as well as wastewater collection and treatment to protect the public health and safety. The Department also provides critical, essential services necessary for the public health and safety of the City by providing safe drinking water and water for adequate fire protection. System security for both water and wastewater systems is important for reliable operation and the ability to meet system demands. Attention to security continues to be an integral part of operations. Efforts continue to provide and promote self-evaluation, benchmarking opportunities and other sound business practices in an effort to remain competitive with other cities and utilities, while promoting a positive image for the City and the services provided. Support for expanded automation of plant operations continues with the goal of maximizing chemical and power efficiencies, even in an environment of more stringent regulatory requirements, while improving reliability and minimizing staff requirements. Efforts to develop new sources of revenue including initiatives such as Landfill Gas development and use as well as contract and reclaimed water sales will continue.

Administration is tasked with the management, oversight and planning processes necessary for providing adequate water resources and wastewater facilities to meet the needs of our growing community and provide the foundation for a prosperous economy. Personnel manage the on-going evaluation and improvement of departmental facilities and regulatory compliance issues, including administering the City's Industrial Waste Pretreatment Program that enforces the City's Sewer Use Ordinance and supervision of the Cross Connection Control unit, which insures the protection of the potable water system. Specialized departmental programs in water conservation, resource management and public education are also included in this core area. Laboratory Services provides lab analysis for water, wastewater and storm water programs. Customer Billing Services provides billing services for the utility, responds to customer inquiries, establishes new accounts, and authorizes water and sewer connections and disconnections. Employees in the field services unit provide connection and disconnection services.

In support of the goals that all citizens are safe, enjoy a prosperous economy, enjoy a healthy environment and that citizens enjoy an efficient and accountable City government, the Department of Water Management administers a broad range of environmental programs. These efforts provide critical services to the citizens of Durham and are related to water quality, wastewater treatment and industrial activity. Support services include department administration and laboratory services.

Water Supply & Treatment

\$5,149,583

38 FTEs

This core service area is responsible for providing a safe, reliable, economical and sufficient supply of water to the citizens of Durham City and County. Through optimizing treatment processes, maximizing water transfer strategies and conducting monitoring activities, staff ensures that adequate supplies of consistently high quality drinking water are available to Durham's water customers. The Water Supply and Treatment Division (WS&T) operates and maintains two conventional water treatment facilities with a combined treatment capacity of 52 million gallons per day (MGD) and two surface water reservoirs. Service is provided by operating equipment and adjusting treatment technologies to optimize the physical and chemical processes important in effective water treatment and by selecting pumping scenarios that assure adequate supplies at minimum costs. This level of service supports community goals that all citizens are safe, enjoy a prosperous economy, a healthy environment and that citizens enjoy an efficient and accountable City government.

Wastewater Treatment**\$7,441,523**
35 FTEs

This core service area provides the citizens of Durham with cost-effective wastewater treatment and residuals management. This service is accomplished by optimizing the treatment processes so that the North Durham and South Durham facilities discharge effluent of consistently high quality in compliance with State permit requirements. The North and South Durham work groups operate and maintain state-of-the-art tertiary treatment facilities, each with a permitted capacity of 20 million gallons per day (MGD). North Durham personnel assist with the Department's Household Hazardous Waste (HHW) Program and conduct monitoring activities related to landfill post closure monitoring and management of the landfill gas collection system. The Laboratory Services Section of the Department is located at the South Durham Facility. The level of service by this core area supports community goals that all citizens are safe, enjoy a prosperous economy, enjoy a healthy environment and that citizens enjoy an efficient and accountable City government by protecting the environment for the citizens of Durham, for downstream users of the water receiving Durham's discharges and others potentially affected by residual management operations. This service also includes wastewater treatment costs for city wastewater flows to the County wastewater treatment plant.

Maintenance Support

This core service area provides the citizens of Durham with cost-effective maintenance of water and sewer infrastructure including the distribution and collection systems, raw water lake facilities, water treatment facilities, water reclamation facilities, pump stations and elevated tanks. The level of service by this core area supports community goals that all citizens are safe, enjoy a prosperous economy, a healthy environment and that citizens enjoy an efficient and accountable City government.

Water & Sewer Maintenance**\$7,496,195**
120 FTEs

The Water and Sewer Maintenance division provides routine and emergency maintenance to the City's water distribution and wastewater collection systems. Typical tasks include the inspection, cleaning and repairing of water and sewer main trunk lines. This division also operates and maintains fire hydrants and water valves, as well as installing and repairing water and sewer service connections. The Meter Shop provides routine and emergency response to water meter problems, including leaks, unusual consumption rates, and water pressure concerns. This group is also responsible for reading water meters. The Sewer Rehab group monitors the collection system for inflow and infiltration problems, provides manhole rehab and replacement, supplemental flow studies and other collection system maintenance needs.

Plant Maintenance**\$3,314,434**
40 FTEs

Plant Engineering & Maintenance provides all major maintenance and minor construction support for water, and wastewater plants, pump stations and other facilities. They also have responsibility for long-term maintenance of the closed landfill. Expenses for support services are apportioned to the appropriate core services of water and wastewater as they relate to performance indicators.

Post-Closure Monitoring**\$248,313**

This service area provides for the monitoring and maintenance of the closed landfill and is supported by the Solid Waste Fund.

RESOURCE ALLOCATION

	Actual FY 2002-03	Adopted FY 2003-04	Estimated FY 2003-04	Adopted FY 2004-05	Change
Appropriations					
Personal Services	\$ 6,917,302	\$ 7,238,299	\$ 6,940,603	\$ 13,537,502	87.0%
Operating	14,117,069	9,981,942	10,216,045	13,426,240	34.5%
Capital	583,821	324,500	265,967	481,814	48.5%
Debt Service	-	-	-	-	-
Transfers to Other Funds	-	-	-	-	-
Total Appropriations	\$ 21,618,192	\$ 17,544,741	\$ 17,422,615	\$ 27,445,556	56.4%
Full Time Equivalents	142	139	139	283	144
Revenues					
Water & Sewer Fund	\$ 15,765,598	\$ 17,339,761	\$ 17,226,995	\$ 27,197,243	56.8%
Solid Waste Fund	5,852,594	204,980	195,620	248,313	21.1%
Total Revenues	\$ 21,618,192	\$ 17,544,741	\$ 17,422,615	\$ 27,445,556	56.4%

BUDGET ISSUES FOR FY 2004-05

- No changes are made to levels of service for water and wastewater services. Delayed maintenance and replacement of non-funded and under funded items may lead to increased costs and expenses in the future.
- A consolidated water and wastewater utility is a primary focus for the ensuing year. Water and wastewater elements of the Finance, Public Works and Environmental Resources Department will be consolidated into one utility to improve accountability, reliability and responsibility for water/wastewater functions.
- Concerted efforts will be made to improve revenue to the utility in order to improve the debt coverage ratio (operating revenues to expense ratio) and begin to address the sagging CIP and long-term financial health of the Water & Sewer fund.
- Infrastructure maintenance continues to be an issue of concern for the utility.

UNFUNDED OR UNDERFUNDED ITEMS

• Water plant sludge disposal	\$60,000
• Excavator for PE&M	\$40,000
• Step Van Replacement for equipment 74239	\$50,000
• City Cross Connection Testing	\$10,000
• Cross Connection Control Staff addition	\$50,000
• Road Repair at South Durham WRF	\$45,000
• Pickup 4x4 for PE&M to replace 74206	\$32,000
• Primary Sludge Piping at NDWRF	\$100,000
• Part-Time money to hire intern to assist with special projects in WS&T	\$14,628
• Reduction of Electricity budget in Water Supply & Treatment	\$50,000
• Generators to drive pumps at the NDWRF	\$500,000
• Lowboy trailer, front loading for PE&M	\$30,000
• Sludge Pad Cover for the North Durham Water Reclamation Facility	\$500,000
• Williams Plant and Lake Michie MIMS	\$100,000
• Partnership for Safe Water Level III	\$50,000
• Reduction of Chemical budget	\$10,000
• Backhoe Replacement	\$74,000
• Additional Lick Creek Pump Installation	\$200,000
• Portable Backup Generator	\$30,000
• SDWRF Gas Holder Repair and Painting	\$100,000

COMPLETED INITIATIVES FOR FY 2003-04

- Participated in Utility merger planning and implementation.
- Bar Screen at the Lick Creek Pump station installed.
- Completed several security initiatives at the water treatment plants.
- Acquired property for a new raw water storage reservoir (Teer Quarry).
- Completed Huckleberry Reservoir renovation project.
- Completed and distributed utility's annual water quality and consumer confidence report.
- Completed and distributed utility's annual wastewater collection report.
- Completed Phases 1 and 2 of water meter replacements.

DEPARTMENT INITIATIVES FOR FY 2004-05

- Continue renovations at North Durham Water Reclamation Facility.
- Complete Little River Dam repairs.
- Complete Lake Michie Dam repairs.
- Complete painting of Ellis Road Tank.
- Complete Phase 3 of water meter replacements and continue AMR (Automatic Meter Reading) initiatives.
- Complete a Water and Sewer Rate Study.
- Begin Broadmoor Pump Station Replacement.
- Begin Raleigh Interconnection project.
- Begin 30" Northeast Transmission Main Extension Project.
- Continue Security Improvements financed by CIP and federal matching grant.

GOALS, OBJECTIVES & STRATEGIES FOR FY 2004-05

GOAL: *To provide a safe working environment for all department employees.*

OBJECTIVE: To maintain a reduced *Employee Health and Severity Rate*, also know as the lost time incident rate, to a level lower than the industry average for other Water/Wastewater Utilities (currently 5.9 for Water and 9.0 for Wastewater industries).

STRATEGY: To continue to place emphasis on worker safety through the efforts of the Department's safety committee, safety training, and to reinforce the safety incentive program.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
Lost time incident rate	6.4	7.0	2.3	7.0

GOAL: *To provide sufficient quantities of high quality drinking water to all of Durham's customers at the lowest possible cost.*

OBJECTIVE: Zero violations of water supply and treatment regulations or requirements during this budget year.

STRATEGY: Maintain facilities and equipment so that high quality treatment is provided 100% of the time. Continue studies for the investigation of process alternatives and improvements for capacity expansion.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
# of violations of regulations/requirements	0	0	0	0

OBJECTIVE: Monitor annual average flows for assessment of remaining capacity as % of available capacity. Engineering of new facilities to begin when 80% of capacity is reached and construction begun when 90% of capacity is reached.

STRATEGY: To estimate and monitor annual demands to meet system growth needs.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
Estimated Annual Demand (MG)	50.1%	60.6%	52.7%	52.7%

OBJECTIVE: To operate the water supply and treatment facilities to minimize increases in unit cost (\$/MG) as the system demand increases and the need for infrastructure improvements increase.

STRATEGY: To optimize the water treatment process with careful monitoring and control of chemical feed equipment. Continue to minimize costs for pumping while maintaining adequate supply by using "Time-of-Day" electric rates and water transfer by hydropower.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
\$ Per MG treated	\$556	\$546	\$520	\$566

GOAL: *To provide effective wastewater treatment services so that the needs of Durham's customers can be met in a cost-effective manner.*

OBJECTIVE: No violations of wastewater treatment rules and regulations at the water reclamation facilities during this budget year.

STRATEGY: Operate and maintain facilities and equipment so that adequate treatment is provided 100% of the time. Increase back-up power at SDWRF.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
# of violations of regulations/requirements	2	0	1	0

OBJECTIVE: Monitor annual average flows for assessment of remaining capacity as % of available capacity to meet state rules. Engineering of new facilities to begin when 80% of capacity is reached and construction begun when 90% of capacity is reached.

STRATEGY: Continue to track and analyze flows relative to system capacity. Continue efficiency improvements at both wastewater plants.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
Annual avg. flow demand (MG)	52.4%	49.3%	47.9%	47.9%

OBJECTIVE: Operate the water reclamation facilities to minimize increases in unit cost (\$/MG) as the system demand increases and the need for infrastructure improvements increase.

STRATEGY: Optimize the water reclamation process improvements. Continue to minimize costs by efficient energy usage strategies and effective staff deployment.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
\$ Per MG Treated	\$771	\$991	\$800	\$980

GOAL: To provide maintenance and repair of all components of the water distribution and wastewater collection systems.

OBJECTIVE: Ensure all meters meet AWWA accuracy standards.

STRATEGY: Continue scheduled testing of all large meters on a quarterly, semi-annual and annual basis.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
# of tests conducted to detect defective 2" to 10" meters	1,230	1,200	1,200	1,200

OBJECTIVE: Optimize and implement a systematic flushing program.

STRATEGY: Coordinate, plan and schedule flushing to meet regulatory chloramines disinfections.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2003	Adopted FY 2004
Miles of water line flushed per year	1200	1200	1200	1200

OBJECTIVE: Reduce the number of estimated meter readings.

STRATEGY: Optimize meter reading routes and increase productivity through employee training and accountability to ensure 35,000 plus meters are read monthly.

MEASURE:	Actual FY 2003	Adopted FY 2004	Estimated FY 2004	Adopted FY 2005
% of water meter readings estimated	N/A	<4%	3%	<3%